

Ser. No. 10/511,398
Customer No. 24498

PU020116

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Remarks/Arguments

This amendment is submitted and its entry is requested under the provisions of Rule 116(b) on the grounds that it places this application in condition for allowance or in better condition for appeal without requiring further search or consideration of new issues.

Claim 9 has been canceled without prejudice since it became redundant as a result of amendments to claims 8 and 10. Claim 20 has been canceled without prejudice to simplify the issues and to place this application in condition for allowance or in better form for appeal.

Claims 1 – 8 and 10 - 19 remain in the application.

No claims have been allowed but claims 3 – 7 and 10 – 11 were objected to only on the grounds they were dependent on a rejected base claim. Claims 3 – 7 and 10 – 11 were indicated to be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claim.

Claims 3 and 4 have been so amended to independent form to comply with the Examiner's requirements for allowance, which action is requested. Claims 5 – 7 which are dependent on allowable claim 4 should therefore also be allowed.

In a similar manner, claim 10 has been amended to independent form to comply with the Examiner's requirements for allowance, which action is requested. Claims 11 – 13 are also now dependent on allowable claim 10 and should therefore be allowed.

It is therefore requested that this amendment be entered, making all of claims 3 – 7 and 10 - 13 allowable without raising any new issues or reasons for further search or consideration.

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1. The Rejections

(a) Claims 1, 2, 8 – 9 and 12 - 20 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Hu et al (US 5841478). Claims 9 and 20 have been canceled without prejudice as indicated above.

2. The Response

(a) The Stated Basis for Rejection of claims 1,2, 8 - 9 and 12 – 19 Based on Hu et al. Under § 102(b)

In the rejection of claim 1, the Examiner states:

"Hu discloses ----- means for generating decision data associated with trellis state transitions in response to said video data (col. 16, lines 61 – 62), including a branch metric computer (branch metric computer 30 in fig. 1) comprising means for selecting an estimated value for a second information data bit from a pair of first and second data bits (col. 13, line 66 – col. 14, line 9, Z1 and Z0 comprise the pair of data bits, the Z2 value is the closest to the received delayed symbol point and interpreted to be estimated)". (Rejection, page 3).

In the related rejection of claim 2, the Examiner states:

"Re claim 2, Hu discloses a system further including means for calculating for a current trellis branch a value for the first data bit and an estimated value for the second information data bit (col. 4, lines 46 – 53, col. 7, lines 10 – 13). (Rejection, bottom of page 3).

(b)(i) What Hu et al. Discloses at Column 13

Beginning at col. 13, line 66, Hu et al states

"Input re-encoded data Z1 and Z0 from units 50 and 70 for the first interleaved symbol uniquely define one of the four cosets previously described, as indicated in symbol mapper table 125 of FIG. 2. For example, Z1 = 1, Z0 = 0, defines coset point C (-3, +5). Look-up table function 960 of FIG. 11 compares the input symbol output from adder 950 with each of the two constellation points in the coset defined by inputs Z1 and Z0. The constellation point closest to the received

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delayed symbol point is determined and the Z2 value of this constellation point is provided to post-coder 977 as the decoded Z2 value for the first interleaved symbol. Demapper 60 repeats this process for each interleaved symbol packet received from unit 70 using synchronized associated symbol data from units 47 and 50.”.

It can readily be seen that Hu et al is describing operations that take place in their re-encoder 50 and trellis demapper 60 (see FIG. 1 and FIG. 11 of Hu et al.). Hu et al. is operating on “re-encoded data Z1 and Z0” (and Z2) – see quote above. The relevant description of how Hu et al operates is contained at Page 7 of the specification of applicant’s present application as follows (the Hu et al patent is owned by a company related to the assignee of the present application):

“These re-encoded bits” (Z0 and Z1 bits) “are forwarded to the trellis demapper. Simultaneously, a delayed version of the received sequence of coded symbols is generated by the delay unit and sent to the trellis demapper. The trellis demapper uses the delayed received coded sequence, together with the re-encoded bits Z0 and Z1 to identify the encoded bit Z2 and the corresponding information bit X2”.

These portions of the process and apparatus of Hu et al. (re-encoder and demapper) as described above are eliminated in accordance with the present invention. That is, the demapper and re-encoder (and an associated delay) of Hu et al do not exist in the presently claimed system and method. Thus, in order to identify the information bit X2, Hu must go through additional processing in additional apparatus which is not required in accordance with the present invention.

Independent claim 1 has been amended accordingly to emphasize the associated differences between Hu et al. and the present invention. In particular, in claim 1, a comma (,) has been deleted following the phrase “including a branch metric computer” and before the word “comprising” to make it abundantly clear that

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It is the "branch metric computer" in Applicant's inventive system that "compris(es) means for selecting an estimated value for a second information data bit, etc.".

Specifically, in amended claim 1, it should be noted that the first element of that claim is "means for generating decision data ----- , including a branch metric computer comprising means for selecting an estimated value for a second information data bit, etc.". As is explained in the present application, Hu et al. does not and cannot provide such information about the X2 bit from the branch metric computer (see present application, "Brief Summary of the Invention", second paragraph). Hu requires substantial additional equipment following the ACS unit to accomplish the processing of the information bits.

In addition, the recited "estimated value for a second information data bit" is not selected from the recited "pair of first and second data bits" in Hu et al.

This is not a new issue and has been argued by Applicant and considered before by the Examiner but the Examiner apparently has taken a different view of the claim language than Applicant in the prior proceedings. The present simple change in punctuation is believed to overcome this problem and only further emphasizes these important distinctions between Hu et al. and the present invention. These distinctions are clearly stated in Applicant's specification as well, as is pointed out above.

Reconsideration and allowance of claim 1 in view of these important distinctions over Hu et al. which result in significant reduction in system complexity are respectfully requested.

It should be noted that claim 14 has been amended to be dependent on amended claim 1, further emphasizing the role of the branch metric computer in processing the information data bits according to the present invention. It is respectfully submitted that all of the claims now dependent on claim 1 (i. e. claims 2 and 14 – 19), as well as claim 1, are patentably distinct from Hu et al by virtue of

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these substantial differences. Reconsideration and withdrawal of the rejection of claims 1, 2 and 14 – 19 based on Hu et al. are therefore requested.

As noted above, claims 12 and 13 have been made dependent on allowable claim 10, thereby overcoming any rejection based on Hu et al.

(b)(ii) The Rejection of claim 8 Based on Hu et al. Under § 102(b)

Independent method claim 8 has been rejected on a similar basis as the rejection of Applicant's apparatus claims.

The Examiner has stated that "The allowable subject matter of claims 3 and 4 pertain to concurrently selecting appropriate first and second data bits into a trellis state". Applicant has therefore amended independent claim 8 to include such language from claim 10 in order to make claim 8 allowable as well, which action is requested.

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3. Conclusion

Independent claims 1, 3, 4, 8 and 10 each include distinguishing features as pointed out above which are not found in the cited reference. Claims 2 and 14 further clarify distinguishing features of the invention relating to particular characteristics which are not found in the cited reference.

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In view of the foregoing amendments and Remarks, reconsideration and withdrawal of all of the rejections and allowance of all pending claims 1 – 8 and 10 - 19 are respectfully requested.

Respectfully submitted,

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